



Laboratory precision without the lab

PODS Portable Oil Diagnostic System

FEATURES

- Efficient and intuitive to use
- Immediate laboratory-quality onsite results
- Reports SAE and ISO cleanliness classifications, 4/6/14 $\mu\text{m(c)}$
- Harmonizes NAS 1638 to new MTD calibration
- Full ISO 11171 calibration options
- Standard bottle and online modes
- Multiple language support

APPLICATIONS

- Allow proactive maintenance
- Monitor system operations
- Extend system reliability
- Certify manufacturing “roll off”
- Identify maintenance cycles
- Schedule repair periods
- Track online system cleanliness
- Validate facility monitoring with the PM4000



Intelligent and robust, the Portable Oil Diagnostic System (PODS) measures, stores and reports oil condition parameters essential for reliable hydraulic systems operation. The PODS analyzes fluids and lubricants in online or bottle sampling modes to determine immediately the machine's operating condition. This instant analysis is as accurate and precise as traditional laboratory analysis that takes weeks. As a result, a PODS analysis reflects the true condition of the oil under operating conditions.

The PODS monitors the dirtiest of fluids due to its concentration limit of 90,000 cts/mL. Superior optics and design provide eight channels for particle counting, as well as measurement of viscosity, temperature, and dielectric value to assess fluid conditions. Versatile in operation, the PODS offers compatibility with standard hydraulic fluids, oils and phosphate esters. A rugged carrying case ensures durability and the convenience of portability.

The PODS features a wide array of reporting formats, including ISO 4406, NAS 1638 and SAE AS 4059. It reports to both the new MTD $\mu\text{m(c)}$ sizes (4/6/14) or to the previous ACFTD μm sizes (2/5/15). Whether calibrated to the new ISO 11171 standard or the ISO 4402 standard, the PODS meets industry demands. Unlike other portable particle counters on the market, the PODS unit fully supports the ISO 11171 standard.

The PODS contains a buffer for 500 records. The optional PODSControl analysis software provides real-time data download and visualization, as well as data analysis, formatting and reporting.



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SPECIFICATIONS

Number of Channels	8
ISO-MTD Size Channels	4, 4.6, 6, 9.8, 14, 21.2, 38, 68 μm
ACFTD Size Channels	~1, 2, 5, 10, 15, 25, 50, 100 μm
Flow Rate	15 to 50 mL/min (automatic)
Light Source	Laser diode
Calibration	ISO MTD (based on ISO 11171) Full ISO 11171 optional
Counting Efficiency	Meets JIS B9925:1997
Concentration Limit	90,000 particles/mL at 10% coincidence
Sample Volume	3 runs (averaged) of 5, 10 or 20 mL runs (programmable)
Fluid Temp Range	32 to 194°F at 77°F ambient (0 to 90°C at 25°C)
Measured Fluid Temperature	32 to 212°F, $\pm 0.9^\circ\text{F}$ (0 to 100°C, $\pm 0.5^\circ\text{C}$)
Viscosity	Range 2 to 424 cSt (30 to 2000 SUS) Measurement 10 to 424 cSt $\pm 20\%$ at value
Wetted Materials	Aluminum, stainless steel, sapphire, PTFE, and Aflas [®]
Cleanliness Classification	ISO 4406-1991, ISO 4406.2-1999, NAS 1638, MIL-STD-1246C, NAVAIR 01-1A-1, SAE AS 4059
Data Storage	500 Sample Records
Dimensions	7" d x 12.5" w x 14" h (17.8 x 33.0 x 35.6 cm)
Weight	21 lbs (9.5 kg)
Input/Output	Serial Communication RS-232
Bottle Operation	Purge Volume: 15 to 30 mL (automatic) Cartridge: CO ₂ , replaceable, rechargeable Operating Capacity: 60 samples (120 mL sample bottle) Shop Air: 60 to 110 psi (4.1 to 7.6 bar) clean, dry
Online Operation	Fluid Pressure: 40 to 6000 psi (2.75 to 413.7 bar) Purge Volume: Programmable
Power	DC Input: +24 VDC, 2A AC Adapter: Universal 100-240 VAC, 50-60 Hz, 60 W Rechargeable Battery: Nickel-Metal Hydride Operating Time: 100 samples or 4 hours continuous Recharge Time: 2.5 hours
Environment	Operating: 32 to 122°F (0 to 50°C); 20 to 85% relative humidity, non-condensing Storage: -40 to 158°F (-40 to 70°C), up to 98% relative humidity, non-condensing
Accessories Included	Carrying Case, High Pressure Hose Adapter, CO ₂ Bottles, Hand Pump, Sample Bottles

OPTIONAL ACCESSORIES

- Ultrasonic Bath
- Mechanical Shaker
- Additional Sample Bottles
- Additional CO₂ Bottles
- Dielectric Measuring Capability
- PODSControl Software

